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10/811,309

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Cory Richardson

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EXAMINER

LAZORCIK, JASON L

ART UNIT

PAPER NUMBER

1791

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/811,309	<b>Applicant(s)</b> RICHARDSON ET AL.	
	<b>Examiner</b> JASON L. LAZORCIK	<b>Art Unit</b> 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 April 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7, 12-18 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 12-18 and 21-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 3, 2009 has been entered.

### **Status of the Claims**

Applicants reply dated April 3, 2009 amends claim 1 and 12, cancels 8-11 and 19-20, and adds new claim 23.

Claims 1-7, 12-18, and 21-23 are pending in the application. Claims 8-11 and 19-20 have been cancelled by Applicant, and no claims have been withdrawn from consideration.

Therefore, Claims 1-7, 12-18, and 21-23 are pending for prosecution on the merits

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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3. Claims 1-7, 12-18, and 21-23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

4. Independent claims 1 and 12 have been amended to recite the limitation wherein "said flexible protective sheet is 1 mm to 3 mm in thickness" in lines 7-9 and lines 6-7, respectively. There is insufficient support in the Specification as originally filed for the amended claims as presently recited. Specifically regarding the thickness of the protective layer, paragraph [0037] of Applicants original Specification states that;

"In certain example embodiments of this invention, protective layer 27 is from about 1-3 mils thick, more preferably about 2 mils thick, and is in solid flexible sheet form so as to be capable of being stored on a roll or the like before application over the low-E coating. In one example embodiment of this invention, layers 25, 27 may be obtained from Nitto Denko, under the tradename 5057A film tape."

5. Applicant is advised that 1-3 mils, or thousandths of an inch, is not equivalent to the presently recited thickness range of 1-3 millimeters, or thousandths of a meter. Further, Applicants preferred embodiment employs Nitto Denko 5057A surface protective tape which exhibits a thickness of 2 Mils or 50 micrometers (please see Nitto

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Denko 5057A product data sheet). In view of the foregoing, Applicants proposed amendment to claim a sheet having a thickness of 1 mm to 3 mm or ~39.7 Mils to ~118.1 Mils is not supported by the original Specification and is construed as an inadvertent typographical error by Applicant.

6. For purposes of examination, the thickness of the protective sheet is construed to be limited to a thickness of 1 to 3 Mils or ~ 25.4 to ~76.2 microns in thickness which is clearly consistent both with Applicants original disclosure and Applicants preferred embodiments as noted above.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-7, 12-18, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stachowiak (US 6,602,608) in view of Medwick (US 6,882,773) and Konda (US 5,254,201).**

Stachowiak teaches a multi-layered low-E reflective film (Table 1, Figure 1) comprising at least one infrared reflecting layer with silver “sandwiched” between at least a first and second dielectric layer. The reference teaches that the layers are deposited by a sputter coating process (Column 5, lines 57-67), that the uppermost layer of the coating comprises Silicon Nitride, that it is known to heat treat said coated articles (e.g., thermally temper, heat bend or the like) (column 2, Lines 58-63), and finally to incorporate said sheets into “architectural windows (e.g. IG units)”. The instant reference clearly indicates that the disclosed thin film structure will have a transmission of at least 65% through at least 80% on occasion (Column 6, Lines 51-53). Stachowiak is silent regarding the subsequent processing of the Low-E glass sheet after thin film deposition or regarding the application of a removable, protective coating to the substrate.

In accord with applicants disclosed (prior art) figure 1, it is also understood to be well known and established in the art to coat the Low-E glass substrate with a protective film and to subsequently cut, edge seam, and wash the coated substrate. This assertion is corroborated by the teachings set forth by Medwick (US 6,882,773) which indicates that “for substrates with one or more functional coatings (e.g. a functional coating on the first surface) the protective coating is preferably deposited over at least a portion of the functional coating(s) to protect the functional coating(s) from mechanical

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and/or chemical damage and/or misidentification during shipment, storage, handling, and processing” (Column 3, Lines 15-21). The reference continues by specifically citing the need to protect the functional coating on Insulated Glass (IG) units from marring or damage during processing, shipment or storage (column 1, Lines 40-45). Finally, the instant reference teaches that it is beneficial to alter the color of the coating in any manner deemed appropriate to clearly and easily identify the nature of the coating on the glass substrate (including altering the coating to a green tint) (Column 12, Lines 6-55). By applicants admitted prior art and the teachings set forth by Medwick, it would have been obvious to one of ordinary skill in the art to apply a protective film to the IG substrate prior to cutting, edge seaming, and washing said substrate in order to appropriately protect the functional surface from damage or marring. The combined Medwick and Stachowiak still fail to explicitly set forth the application of a flexible solid film comprising polyethylene with an adhesive layer comprising acrylic as the protective film.

Konda (US 5,254,201) teaches that a preformed and solid protective sheet having excellent water resistance can be made from polyethylene (column 3, Lines 21-28) with a pressure-sensitive adhesive layer of an acrylic type (Column 3, Line 46). The instant reference continues by disclosing the application of this protective sheet to a semiconductor wafer to prevent damage to the thin film circuit pattern printed on the surface thereof during grinding and/or polishing procedures performed on the wafer (Column 1, Lines 15-58). It further indicates that when the presence of the film is no longer deemed necessary, it can be directly stripped from the surface of the substrate

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either by hand or machine. The immediate reference is considered to be analogous prior art for the claimed subject matter since the disclosed film is applied to a substrate in such a manner to protect the fine structure of a film formed thereon from damage or marring. It would therefore have been obvious to one of ordinary skill in the art of thin film processing to utilize the solid film set forth by Konda as the protective film collectively taught by the Medwick and Stachowiak references. This would be an obvious substitution for the Medwick film taught above since the pressure sensitive adhesive in the Konda film allows simple removal of the film by machine or by hand when it's presence is no longer required.

(I) The prior art is silent regarding a flexible protective sheet having a thickness of 1mm to 3mm

Applicant acknowledges that Konda teaches use of a flexible protective sheet having a thickness of 20 to 200 micrometers (see Applicants reply, page 10) and that Medwick teaches protective film thicknesses of 1 to 250 micrometers (see Applicants reply, page 9), however the prior art of record is silent regarding a flexible protective sheet having a thickness in the range of 1 mm to 3 mm as recited in independent claims 1 and 12

(II) Applicants disclosed protective sheet thickness is encompassed by Konda and Medwick and the recited sheet thickness would have been obvious in view of the ordinary level of skill in the art at the time of the invention.

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7. For reasons noted above in the rejection of claims under 35 U.S.C. §112, first paragraph, Applicants protective sheet thickness range is construed to be limited to a thickness of 1 to 3 Mils or ~ 25.4 to ~76.2 microns in thickness which is clearly consistent both with Applicants original disclosure and Applicants preferred embodiments as noted above. The sheet thickness ranges disclosed by both the Konda and Medwick references wholly encompass Applicants disclosed thickness ranges as well as the sheet thickness of Applicants preferred embodiment.

8. Further, one of ordinary skill in the art at the time of the invention would have viewed the use of a thicker protective film as a merely routine and obvious extension over the prior art teachings. That is, one having no more than a rudimentary level of skill in the art at the time of the invention would recognize that increasing the thickness of the protective sheet used would predictably enhance the scratch resistance of the underlying substrate during handling. Absent compelling evidence of unexpected results, it is the Examiners assessment specification of an appropriate protective film thickness would have fallen well within the purview of a skilled technician that that use of a thicker protective film within Applicants recited range would have yielded a wholly predictable increase in scratch resistance for the substrate.

9. It is therefore the Examiners assessment that the use of a protective film having a thickness in the range of 1000 to 3000 microns is insufficient to patentably distinguish the recited invention over that disclosed in the collective prior art.

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Regarding Applicants newly submitted claims 21 and 22, none of the cited prior art references explicitly limit the substrate temperature to fall between 60-120°C or 90-120°C as required in the respectively identified claims. With this point in mind, it is the Examiners position that the claimed temperature ranges are insufficient to patentably distinguish the claimed invention over that set forth in the collective prior art.

Applicant's specification indicates that the claimed temperature range naturally flows from the deposition of the Low-E coating process (paragraph [0038], pages 10-11). One of ordinary skill in the art at the time of the invention would have recognized the benefit to applying the protective sheet in as expedient a timeframe as possible after formation of the Low-E coating, namely as a means to minimize the potential for surface contamination. The skilled practitioner would have likewise been well aware that application of the protective sheet on a substrate of too high a temperature would result in potentially irreversible damage to either the organic adhesive and/or polyethylene backing sheet. In view of the foregoing and absent any evidence of unexpected results to the contrary, it is the Examiners position that the claimed substrate temperature ranges would have been derived by the skilled practitioner through no more than routine experimentation and optimization of the prior art disclosed process.

### ***Response to Arguments***

#### *Rejection of Claims under 35 U.S.C. §103(a)*

#### *Argument #1)*

Applicant reiterates arguments presented in the reply dated October 14, directed individually against the Stachowiak and Medwick references. Specifically, Applicant alleges that Stachowiak does not teach a removable coating applied to the top of the substrate. Further, Applicant argues that the Medwick film is water soluble, that the instant film is applied to the substrate in a liquid state, and that the preferred thickness of 250 micrometers is thinner than the film thickness employed in Applicants disclosed invention, namely 1000 to 3000 micrometers.

In response to applicant's arguments against individually against the references to Stachowiak and Medwick, Applicant is advised that the grounds of rejection are based upon the three-way combination of references to Stachowiak, Medwick, and Konda under 35 U.S.C. §103(a). Applicant's arguments which fail to acknowledge the closely related teachings in the Konda reference are therefore held to be moot. Specifically, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Argument #2)

Applicant next argues that Konda is directed to a method of stripping a protective sheet off a wafer so that the amount of static electricity generated is 500V or less.

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Applicant thereby concludes that the Konda teachings constitute non-analogous art to the Stachowiak and Medwick references.

In response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In the instant case, Applicant was previously advised that both Medwick and Konda share a common goal, namely to prevent the marring of a delicate thin film structure on a refractory substrate. Applicant was further advised that one having no more than an ordinary level of skill would recognize the applicability of Konda film protecting the Low E coatings of the Stachowiak and Medwick references. Applicant's observation that the Konda film additionally provides the additional benefit of antistatic properties in no manner detracts from the motivating influences which would lead the skilled artisan to combine the references in the manner previously described.

### Argument #3)

10. Applicant acknowledges that Konda teaches use of a flexible protective sheet having a thickness of 20 to 200 micrometers (see Applicants reply, page 10) and that Medwick teaches protective film thicknesses of 1 to 250 micrometers (see Applicants

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reply, page 9), however applicant alleges that none of the references teach a protective film having a thickness in the rang of 1000 to 3000 micrometers.

11. Applicant's instant arguments directed to the thickness of the protective sheet have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON L. LAZORCIK whose telephone number is (571)272-2217. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on (571) 272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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